# KNX S1R-B4-UP DES
# Actuator for 1 drive with 3 end switches

***Technical specifications and installation instructions***

Item number 70536


## 1. Description

The **Actuator KNX S1R-B4-UP DES** is an electronic control device for controlling a motor with 3 end switches. A 230 V AC power supply is needed for the motor.

***Functions:***

- **1 drive output** for a **drive with 3 end switches** (Venetian blinds with working position)
- **4 binary input** for use as manual or bus button
- **Position feedback** of the movement position
- **Position storage** (movement position) via 1-bit object (storage and call-up, e.g. by button)
- Controls by **internal or external automatics**
- Integrated **shading control**
- **Scene control** for movement position with 16 scenes
- Blocking objects and alarm messages have different **priorities** so that safety functions always have priority (e.g. wind blocking)
- **Manual or automatic control configuration** per time or communication object

Configuration is made using the KNX software ETS 5. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on **www.elsner-elektronik.de** in the “Service” menu.

### 1.0.1. Scope of delivery

- Actuator

## 1.1. Technical data

| | |
|---|---|
| Casing | Plastic |
| Colour | White |
| Installation | Flush-mounted (in connector socket, diameter 60 mm, 60 mm deep) |
| Protection category | IP 20 |
| Size | approx. 50 x 50 x 54 (W × H × D, mm) |
| Weight | approx. 100 g |
| Ambient temperature | Operation -20…+45°C, storage -30…+85°C |
| Ambient humidity | 5...80% RH, non-condensing |
| Operating voltage | KNX bus voltage |
| Current at the bus | 20 mA |
| Output | 1 × drive with 2 lower end switches (UP/AB1/AB2/N/PE).<br>Fuse:<br>Fine wire fuse T4.0 A.<br>Output load capacity:<br>A total of max. 4 A for resistive load,<br>Inrush current total max. 4 A at ≤ 20ms. |
| Maximum load | Each terminal contact may be loaded with a maximum of 10 A. |
| Inputs | 4× binary inputs |
| Max. wire length Binary inputs | 10 m |
| Data output | KNX +/- Bus plug terminal |
| BCU type | Own microcontroller |
| PEI type | 0 |
| Group addresses | max. 1024 |
| Allocations | max. 1024 |
| Communication objects | 111 |

The product is compliant with the provisions of EU Directives.

## 2. Installation and commissioning

### 2.1. Installation notes

Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.

**CAUTION!**
**Live voltage!**
There are unprotected live components inside the device.

- National legal regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for the intended purpose described in this manual. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

### 2.2. Safety notice for automatic functions

**WARNING!**
**Risk of injury from automatically moving components!**
Parts of the system can be started by the automatic controls and be a danger to persons.

- No persons may remain in the travelling range of parts driven by an electric motor.
- Adhere to the relevant building regulations.
- Ensure that the return path/access to the building is not blocked if spending time outside the building (danger of being locked out).
- Correctly decommission the system for maintenance and cleaning work.

If there is a power outage, the system does not work. Therefore, shadings should be moved to a save position if there are anticipated weather conditions, for example, if this has not already been done by the automatic function (product protection).

If the power supply is removed, the connected drive switches off. When the power is restored, the consumer remains switched off until a new movement command is received by the actuator.

### 2.3. Connection

The device is suitable for operating in dry interiors. Connection according to the connection diagram. For maintenance purposes, accessibility to the device must be guaranteed.

**The applicable provisions and standards for SELV circuits must be complied with for installation and cabling at the KNX connection and the inputs!**
The connections for the binary inputs, including the auxiliary voltage output, meet the requirements for SELV circuits. Mixed installation with non-SELV circuits or the mixing of different auxiliary voltages is not permitted.

#### 2.3.1. Device structure

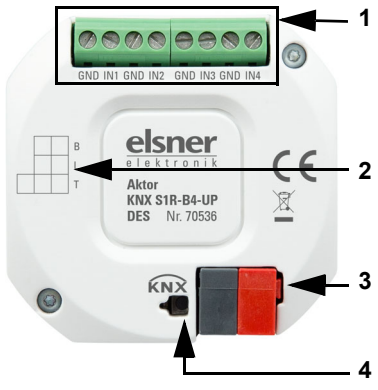



*Fig. 1: Bus side*
*1 Connection terminal digital inputs*
*2 Label field*
*3 KNX plug terminal +/-*
*4 Programming LED and programming button (countersunk)*

*Allocation of the connection terminal analogue/digital inputs*
*1: GND | 2: IN1 | 3: GND | 4: IN2 | 5: GND | 6: IN3 | 7: GND | 8: IN4*
*All GND terminals are internally bridged.*

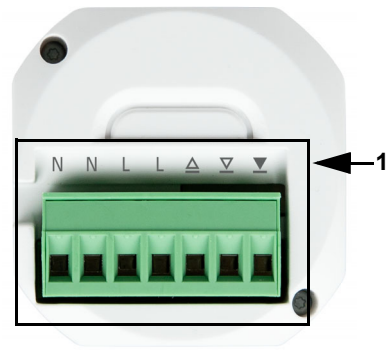



*Fig. 2: Output side*
*1 Connection terminal for drive*

## 2.4. Connection

The **Actuator KNX S1R-B4-UP DES** is installed in a flush-mounted box. The connection is made using a KNX connector on the KNX data bus.

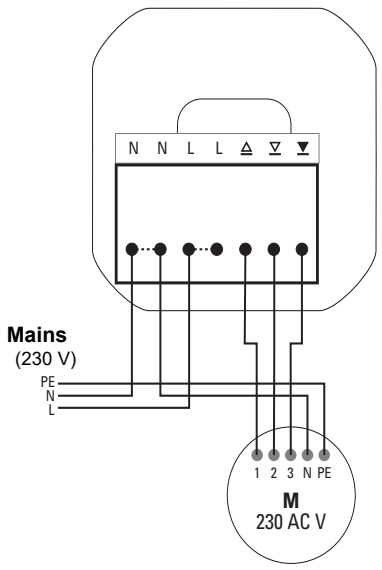
**The applicable provisions and standards for SELV circuits must be complied with for installation and cabling at the KNX connection and the inputs!**

**ATTENTION!**
**When first switched on. relays may be live!**
The bistable relays used in this product can switch themselves on when subjected to strong vibration, e.g. during transport.
- First of all connect the bus voltage; this will switch off the relays. Then switch on the power supply to the drive.

The physical address is assigned by the KNX software. There is a button with a control LED for this on the actuator.

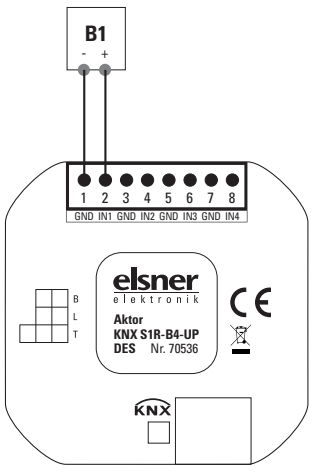
### 2.4.1. Connection examples

***230V drive at the output:***




*Each terminal contact may be loaded with a maximum of 10 A.*

***Inputs:***




*Example: Binary contact on input 1*

## 2.5. Notes on mounting and commissioning

Device must not be exposed to water (rain). This could result in the electronic being damaged. A relative air humidity of 95% must not be exceeded. Avoid bedewing.

After the operating voltage has been applied, the device will enter an initialisation phase lasting a few seconds. During this phase no information can be received or sent via the bus.

For KNX devices with safety functions (e.g. wind or rain blocking), a cyclical monitoring of the safety objects must be set up. The ideal ratio is 1:3 (example: if the weather station sends a value every 5 minutes, the actuator must be configured for a monitoring period of 15 minutes).

# 3. Addressing of the device at the bus

The device is supplied with the bus address 15.15.255. You can program another address into the ETS by overwriting the 15.15.255 address or by teaching via the programming button.

# 4. Disposal

After use, the device must be disposed of or recycled in accordance with the legal regulations. Do not dispose of it with the household waste!